

**REMARKS**

Claims 1-6 are currently pending and have all been rejected on various grounds in the Office Action mailed May 28, 2008. Specifically, the claims have been rejected on the following grounds: claim 1 is rejected under 35 USC 112, first paragraph based on the recitation of the phrases “heat-insulating resin mold section;” claims 1-3 stand rejected as obvious over US Pub. App. No. 2002/0142195 to Ehara (“Ehara”) in view of US Pub. App. No. 2003/0180582 to Masumoto et al (“Masumoto”) and US Patent No. 4,939,050 to Toyosawa et al. (“Toyosawa”); and claims 4-6 stand rejected as obvious over Ehara in view of Masumoto and Toyosawa as applied to claims 1-3 and further in view of US Pub. App. No. 2003/0124420 to Fong et al. (“Fong”). Applicant has responded by amending claim 1 to overcome the rejections noted above. Accordingly, it is respectfully submitted that claims 1-6 are now in condition for allowance.

First, Applicant has amended claim 1 to delete the reference to “heat-insulating.” The claim now merely recites a resin mold section rather than a heat-insulating resin mold section. Applicant submits the resin mold section is clearly supported by the specification as filed. Accordingly, the rejection under 35 USC 112, first paragraph has been overcome.

Claim 1 has been further amended to recite “the heat protecting element being surrounded by a heat insulating member, and the resin mold section surrounding and coating the heat insulating member.” Neither of the newly-added limitations, “the heat protecting element being surrounded by the a heat insulating member” and “the resin mold section surrounding and coating the heat insulating member,” are disclosed or suggested in the cited prior art either alone or in combination. Additionally, no new matter has been added by the amendment. Indeed, the Examiner has recognized that the heat insulating member is disclosed in claim 2, which has also

been amended. Accordingly, Applicant submits claim 1, as amended, is not rendered obvious by and is therefore allowable over the cited prior art as explained in more detail below.

Beginning with Ehara, the Office Action asserts “Ehara teaches a battery pack having a circuit element protected by . . . a PTC element . . . which is the element used as the heat protecting element in the instant disclosure.” Further, the Office Action acknowledges that Ehara is deficient with respect to the claims in that “Ehara fails to teach a resin mold section covering the circuit, connecting member, and PTC element.” In other words, Ehara does not teach the claimed resin mold section. Rather in Ehara, as shown in FIG. 3, a resin mold is not disposed on the upper surface of the PTC element (15) because the PTC element (15) is surrounded by a cavity that is defined as the “component disposing space (10).” Thus, Ehara, in principle, does not disclose or suggest the idea of disposing a heat insulating member between a PTC element and a battery cell. In addition, Ehara fails to disclose a heat insulating member surrounding the heat protecting element, as is disclosed for example in FIG. 5 of Applicant’s specification (see, e.g., heat insulating tape 15). Failing to disclose the foregoing, Ehara cannot be said to disclose the claimed “heat protecting element being surrounded by a heat insulating member, and the resin mold section surrounding and coating the heat insulating member.”

Recognizing those deficiencies in Ehara, the Office Action relies on Masumoto. However, Masumoto is equally unavailing. In applying Masumoto against the previously pending claims, the Office Action asserts Masumoto teaches “a battery having elements covered by an insulating resin mold package” and the Office Action posits that “it would be desirable to fill the case of Ehara with resin as taught by Masumoto et al. since it would provide additional insulation to the circuit elements of Ehara.” However, this conclusion is not supported by Masumoto. Masumoto discloses a configuration in which a heat insulation sheet (16) is placed

(stuck) upon a PTC element (10) opposite to a battery cell (see FIG 3B and [0064] of Masumoto at al.). Unlike Masumoto, in the claimed configuration, a heat insulating member is NOT placed or stuck on the other surface of the PTC element (10) facing the battery cell. As already explained, the heat insulating member (e.g., heat insulating tape 15, See FIG. 5 of Applicant's application) surrounds the heat protecting element. Moreover, as shown in FIG. 3B of Masumoto, no resin mold is present or filled between the bottom surface of PTC element (110) and a battery cell. As shown in FIG. 3B, the space therebetween is a void space. Thus, even assuming *arguendo* the desirable combination of Ehara and Masumoto, such a combination would not result in "the heat protecting element being **surrounded** by a heat insulating member, and the resin mold section **surrounding** and coating the heat insulating member" as required by claim 1.

Toyosawa is directed to preventing an electro-conductive polymer material disposed on stainless-steel-made electrodes of an electric cell from peeling thereof and discloses a method for forming the electro-conductive polymer material having a meshed stainless steel wires embedded inside. To that end, Toyosawa discloses that a dielectric synthetic resin may be disposed between a positive electrode portion and a negative electrode portion (see lines 30 to 42 on column 10 of Toyosawa). Toyosawa does not make any reference to or suggest in any way "the heat protecting element being **surrounded** by a heat insulating member, and the resin mold section **surrounding** and coating the heat insulating member" as required by claim 1. For the same reasons, Fong, also relied on in the Office Action, is unavailing.

The combination of claim 1 is particularly advantageous. The resin mold section surrounding and coating the heat insulating member is advantageous from a view point of long-term deterioration of the battery since this configuration can prevent the thermal expansion or contraction of one side of a PTC element. The requirement that "a heat insulating member" surrounding the heat protecting element is also advantageous because it can reduce thermal conductivity between the heat protecting element and the resin mold section. Those elements and advantages are not found in the devices of Masumoto or Ehara or in the supposed combination of those two or any of the other cited prior art and thus would be more vulnerable to heat. As explained, the proposed combinations of the cited art, as set forth in the Office Action, fall short in obtaining the advantages of new claim 1 in that the PTC element is not surrounded by a heat insulation member, and a resin mold is formed on one side of a PTC element, and the other side of the PTC element is a void space without resin.


For the foregoing reasons, Applicant submits that claim 1, as amended is allowable over the cited prior art. For the same reasons, dependent Claims 2 to 6 should also be allowed.

The Examiner is urged to telephone Applicant's undersigned counsel at the number noted below if it will advance the prosecution of this application, or with any suggestion to resolve any condition that would impede allowance. In the event that any extension of time is required, Applicant petitions for that extension of time required to make this response timely.

Kindly charge any additional fee, or credit any surplus, to Deposit Account No. 50-0675, Order No. 848075-0055.

Respectfully submitted,

Date: September 29, 2008  
New York, New York

  
John C. Garces  
Reg. No. 40,616

Schulte Roth & Zabel, LLP  
919 Third Avenue  
New York, NY 10022

---

**CERTIFICATE OF MAILING**

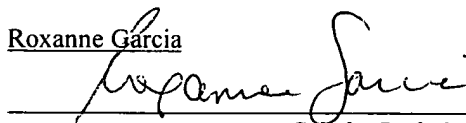
Date of Deposit: September 29, 2008

I hereby certify under 37 C.F.R. 1.8 that this correspondence and enumerated documents are being deposited with the United States Postal Service as First Class Mail with sufficient postage on the date indicated above and is addressed to the Mail Stop - [redacted] Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Name:

Roxanne Garcia

Signature:



*Schulte Roth & Zabel, LLP*

---